

# **2013 Lake Arthur and Lower Mermentau River Vegetation Control Plan**

LDWF, Inland Fisheries

Lake Arthur is a natural lake created by the Mermentau River. It is shallow and generally turbid due to wind action and agricultural runoff (rice). It has little tidal influence. The town of Lake Arthur is located on the western shore of the lake. Shorelines consist primarily of cypress swamps and residences.

## **Water body Information**

***Waterbody Type:***

Natural lake

***Parish/Location:***

Jefferson Davis and Vermillion parishes

***Date Created:***

N/A, natural waterbody

***Size (surface acres):***

4,131 acres

***Water shed Ratio:***

292: 1

***Water Control Structures:***

N/A

***Ownership:***

State of Louisiana owns the water bottoms and the Louisiana Department of Wildlife & Fisheries (LDWF) manages the fish and wildlife resources.

***Bank Elevation:***

Approximately 1.5 ft. MSL

Average Depth – 5ft.

***Stakeholders:***

City of Lake Arthur is the largest stakeholder, and is primarily concerned with drainage and flooding issues. The lake is utilized for recreational and commercial fishing, waterfowl hunting, recreational boating, and commercial navigation. Lake residents are the source of most aquatic weed complaints, generally concerning common salvinia which can be problematic depending upon river stage and time of year.

## Past Control Measures:

### *Biological:*

None

### *Chemical:*

Table 1. Historical treatment measures on Lake Arthur and lower Mermentau River.

Target Plants	Herbicide	Rate (gal/acre)	Treatments per year*
Water Hyacinth Alligator Weed Primrose Spatterdock Pennywort	2, 4-D	0.5	5
Common Salvinia Giant Salvinia Sedge	Imazapyr	0.5	10
	Diquat	0.75	
	Glyphosate	0.75	
	Imazamox	0.5	

Table 2. 2012 Application details for Lake Arthur and lower Mermentau River.

Total # of Treatments*	Herbicide	Rate (gal/acre)
7	2,4-D	0.5
	Imazapyr/Glyphosate	0.75
	Imazamox/Glyphosate	0.75

Table 3. 2012 Acres treated by vegetation for Lake Arthur and lower Mermentau River.

Vegetation	Acres Treated
Water Hyacinth	58.78
Alligator weed	30.3
Salvinia Common	26.7
Primrose	14.5
Fanwort	6
Water Lettuce	6
Pennywort	4
Salvinia Giant	3
Cut grass	2.6
Maidencane	2.6
Knotweed	2.3
<b>Grand Total</b>	<b>156.78</b>

\*For reporting purposes, a treatment is defined as one crew for one day.

***Physical:***

None

**Aquatic Vegetation Status:**

**Fall 2012**

Common Salvinia (50 acres)

Alligator weed (50 acres)

Water Hyacinth (100 acres)

Spatterdock (100 acres)

**Estimate for Fall 2013**

Common Salvinia (50 acres)

Alligatorweed (50 acres)

Water Hyacinth (100 acres)

Spatterdock (100 acres)

**Limitations:**

No draw down capabilities.

Cypress/Tupelo swamps along margins of the lake limit access to some areas.

**Recommendations:**

Conduct 4 treatments with Imazapyr (0.5 gal/acre) and Inergy surfactant (0.25 gal/acre) for water hyacinth, fragrant water lily, and alligator weed control. Infestations of primarily water hyacinth (>75%) will be treated with 2,4-D at 0.5 gal/acre. If treatments are primarily for common and giant salvinia, glyphosate (0.75 gal/acre)/diquat (0.25 gal/acre) mix with Aqua King Plus (0.25 gal/acre) and Thoroughbred (8 oz/acre) surfactants will be used.

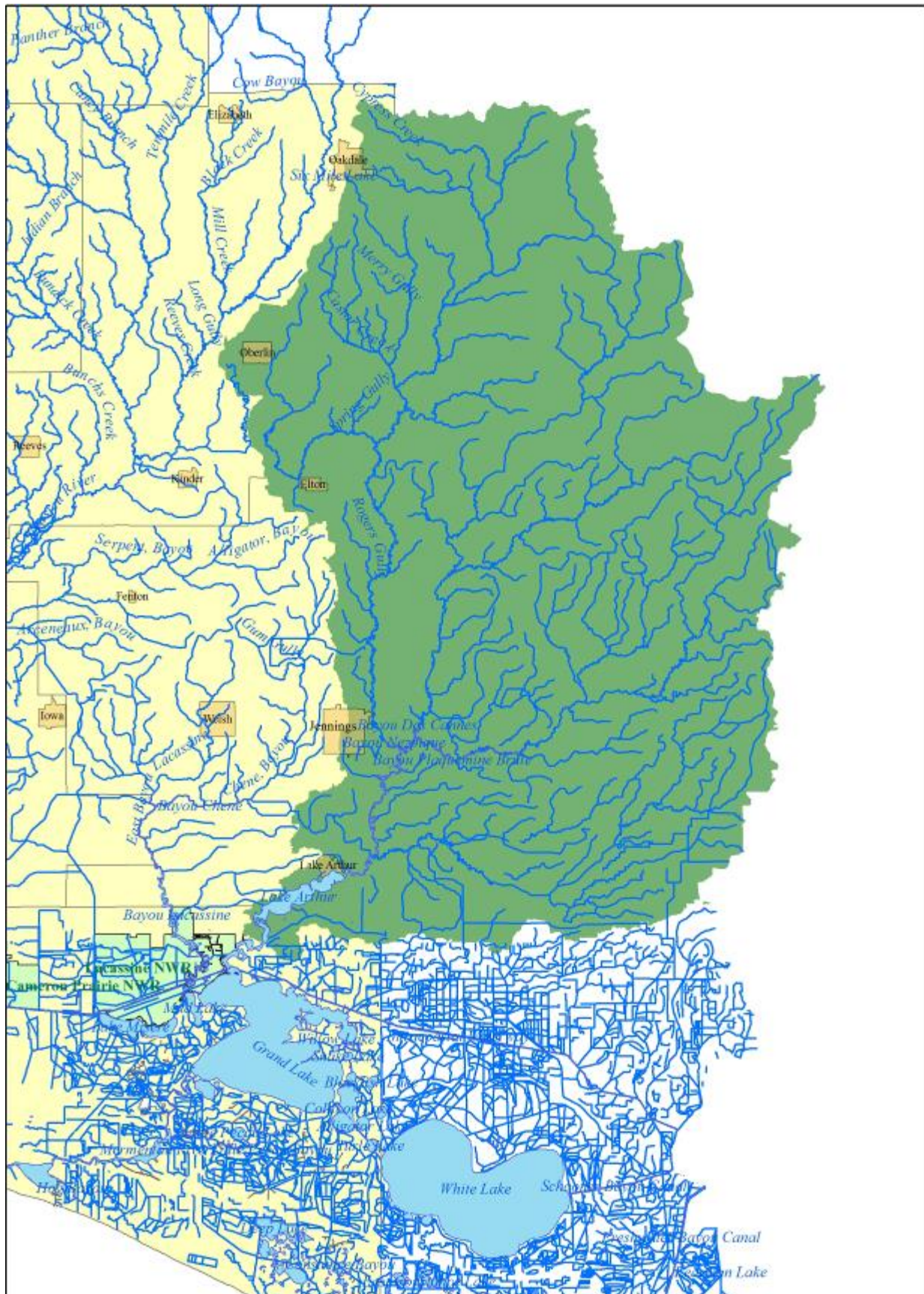


Figure 1. Map of Lake Arthur with watershed in green